

5 solidifying said thermoplastic protective cover.

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united
10.(Amended) The method of claim 9, wherein said step of solidifying comprises the step of
2 cooling said thermoplastic protective cover with a liquid coolant.

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1 12.(Amended) The method of claim 9, wherein said step of solidifying comprises the step of air
2 cooling said thermoplastic protective cover.

REMARKS

Claims 2, 3, 6, 7, 11 and 13-17 have been cancelled. Claims 1, 4, 5, 8-10, 10 and 12 have been amended. Claims 1, 4, 5, 8-10, 10 and 12 remain for further consideration. No new matter has been added.

The rejections shall be taken up in the order presented in the Official Action.

1-6. Claims 1-17 have been restricted into two Groups. Group I includes claims 1-12, while Group II includes claims 13-17.

The undersigned representative affirms the telephone election of Group I with traverse.

Claims 13-17 have been canceled.

7. The title has been amended to describe the invention as a method in view of the restriction and the subsequent election.

8-9. Claims 1-12 currently stand rejected under 35 U.S.C. §112, second paragraph.

Claims 1 and 9 have been amended to remove the term "rapid". Claim 7 has been cancelled.

Claim 9 is directed to forming an insulating product. In one embodiment, this insulating product may be used as an insulating tape (see pg. 6, line 13 - pg. 7, line 3) that can be wrapped around a pipe. Specifically, as set in the specification,

"[t]he syntactic foam insulator 32 and the outer protective cover 34 are similar to the associated elements illustrated in FIGS. 1 and 2. Advantageously, the product 36 can be used as a preform suitable for subsequent re-shaping into a variety of custom shapes. For example, the product 36 may be preformed and the syntactic foam allowed to cure, and at a later time the apparatus is re-heated and placed into a mold for reshaping. Specifically, FIG. 5 illustrates the product 36 (re-heated) placed into a mold 50 for reshaping. Once the product 36 is placed into the mold the protective outer layer is re-hardened. It is also contemplated that the product may be placed into a shallow mold and allowed to settle out to form an insulating tape." (see pg. 6, line 17 - pg. 7, line 3)

10-11. Claims 1, 3, 7, 9 and 11 currently stand rejected for allegedly being anticipated by EP 380 163 A2 patent application (hereinafter "the '163 Application").

Claims 1 and 9 have been amended to recite that the protective cover comprises a thermoplastic material. Hence, it is respectfully submitted that the '163 Application is incapable of anticipating claims 1 and 9.

Claims 3, 7 and 11 have been cancelled.

12-13. Claims 2, 8 and 12 currently stand rejected for allegedly being obvious in view of the '163 Application in combination with the subject matter disclosed in U.S. Patent 4,364,882 to Doucet (hereinafter "Doucet").

Claim 1 has been amended to recite that the protective coating includes a thermoplastic material. It is recognized that the '163 Application does not disclose the use of a thermoplastic material. It is then alleged that a skilled person at the time of the present invention would have replaced the thermosetting material disclosed in the '163 Application, with thermoplastic material as disclosed in Doucet.

Doucet discloses a method of manufacturing plastic pipe for use as a sewage or rainwater pipe (col. 1, lines 10-15; col. 4, lines 8-13)). The plastic pipe disclosed in Doucet includes an inner thermoplastic layer, a foam layer and an outer thermoplastic layer. A fair and proper reading of Doucet reveals that Doucet neither discloses nor suggests the use of a syntactic foam insulation, or anything to do with insulated pipelines of the type disclosed in the '163 Application and claimed by the present application. Doucet simply relates to below ground sewer and drainage pipe. Doucet has nothing to do with thermally insulated pipe. Of course thermal insulation is not even a consideration in a sewage or drainage pipe, because only waste is flowing through the pipe. Accordingly, a person working in the field of thermal insulation for pipelines, would not look to the field of below ground sewage pipes. Therefore, it is respectfully submitted that the '163 Application and Doucet are not properly combinable.

14. Claims 4-6 and 10 currently stand rejected for allegedly being obvious in view of the '163 Application in combination with the subject matter disclosed in U.S. Patent 4,364,882 to Doucet (hereinafter "Doucet"), further in combination with the subject matter disclosed in U.S. Patent 4,773,448 to Francis (hereinafter "Francis").

It is respectfully submitted that this rejection is now moot since claims 1 and 9 are patentable for at least the reasons set forth above.

For all the foregoing reasons, reconsideration and allowance of claims 1, 4, 5, 8-10 and 12 is respectfully requested.

If a telephone interview could assist in the prosecution of this application, please call the undersigned attorney.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

1 1.(Amended) A method of applying syntactic foam insulation to a length of pipe, said method
2 comprising the steps of:
3 co-extruding an inner syntactic foam insulator and an outer thermoplastic protective
4 cover around the length of pipe; and
5 [rapidly] solidifying said thermoplastic protective cover to retain said syntactic foam
6 insulator in a desired shape about the length of pipe.

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1 2.(Cancelled) The method of claim 1, wherein said protective cover comprises a thermoplastic
2 material.

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1 3.(Cancelled) The method of claim 1, wherein said protective cover comprises a thermosetting
2 material.

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1 4.(Amended) The method of claim 1, wherein said step of [rapidly] solidifying comprises the
2 step of bringing said thermoplastic protective cover in contact with water to cool said
3 thermoplastic protective cover.

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1 5.(Amended) The method of claim 2, wherein said step of [rapidly] solidifying comprises the
2 step of passing the coated length of pipe through a liquid bath to cool said thermoplastic
3 protective cover.

1 6.(Cancelled) The method of claim 4, wherein said protective cover comprises a
2 thermoplastic.

1
1 7.(Cancelled) The method of claim 5, wherein said protective cover comprises a thermosetting
2 material and said step of rapidly solidifying includes a step of applying heat to said
3 thermosetting material to solidify said thermosetting material.

1
1 8.(Amended) The method of claim [2]1, wherein said step of rapidly solidifying comprises the
2 step of air cooling said thermoplastic protective coating[material].

1
1 9.(Amended) A method of forming an insulating product, said method comprising the steps
2 of:
3 co-extruding an inner syntactic foam insulator and an outer thermoplastic protective
4 cover; and
5 [rapidly] solidifying said thermoplastic protective cover.

1
1 10.(Amended) The method of claim 9, wherein [said outer protective cover is a thermoplastic
2 and]said step of [rapidly] solidifying comprises the step of cooling said thermoplastic
3 protective cover with a liquid coolant.

1

1 11.(Cancelled)The method of claim 9, wherein said outer protective cover is a thermosetting
2 material and said step of rapidly solidifying comprises the step of applying heat to said
3 thermosetting material.

1

1 12.(Amended)The method of claim 9, wherein [said outer protective cover is a thermoplastic
2 and] said step of [rapidly] solidifying comprises the step of air cooling said thermoplastic
3 protective cover.

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1 13.(Cancelled)An extruder for forming an insulating material, comprising:
2 a first inlet that receives a syntactic foam mixture;
3 a second inlet that receives a molten protective cover;
4 a first die through which said syntactic foam mixture exits to provide extruded syntactic
5 foam extrudate; and
6 a second die that cooperates with said first die to coextrude said molten protective cover
7 over said extruded syntactic foam extrudate.

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1 14.(Cancelled)The extruder of claim 13, wherein said extruder further comprises a third inlet
2 through which a length of pipe enters the extruder, wherein said first and second dies
3 coextrude said syntactic foam extrudate and said protective cover extrudate over said inner
4 length of pipe.

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1 15.(Cancelled)The extruder of claim 12, further comprises:

2 means for rapidly solidifying said protective cover extrudate following its extrusion
3 over said syntactic foam.

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1 16.(Cancelled)The extruder of claim 14, wherein said protective cover extrudate comprises a
2 thermoplastic material and said means for rapidly solidifying said protective cover comprises
3 means for providing a liquid coolant to rapidly solidify said protective cover.

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1 17.(Cancelled)The extruder of claim 14, wherein said protective cover extrudate comprises a
2 thermosetting material and said means for rapidly solidifying said protective cover comprises a
3 heat source to rapidly solidify said protective cover.